

What is claimed is:

1. A suction head of a vacuum cleaner, comprising:

a head case connected to a cleaner body and having a suction hole on the

5 bottom;

a power brush positioned in the head case, some part of which protrudes outward the head case through the suction hole, the power brush for removing alien substances;

10 a supporting shaft fixed to the head case, the supporting shaft for supporting the power brush to be in a rotary motion;

rotary/linear operating means installed between the supporting shaft and the power brush in the power brush, the rotary/linear operating means for rotatively operating and linearly reciprocating the power brush; and

15 cooling fans for cooling the rotary/linear operating means by blowing an air outside the head case into the power brush while rotating the moment the power brush rotates.

2. The suction head of claim 1, further comprising shielding means for separating a channel leading to the inside of the power brush from a channel
20 leading to the suction hole of the head case.

3. The suction head of claim 2, wherein the cylindrical shielding means is installed between a through hole of the head case and apertures formed on both surfaces of the power brush and is connected to the power brush through
25 a bearing so as to be in a relative motion.

4. The suction head of claim 2, wherein the shielding means is a bellows connected between the head case and a body part.

5 5. The suction head of claim 1, wherein the apertures connected to the outside of the head case are formed on both surfaces of the power brush and the cooling fans are installed at least one side of the apertures of the power brush.

10 6. The suction head of claim 5, wherein the outer ring of the cooling fan is fixed to the power brush in a state where the cooling fan is relatively and rotatably supported by the supporting shaft.

15 7. The suction head of claim 5, wherein the cooling fan comprises a hub relatively and rotatably supported by the supporting shaft, the outer ring combined with the power brush, and blades connected between the hub and the outer ring, the blades for generating flow force.

20 8. The suction head of claim 1, wherein both side surfaces of the power brush are opened and the cooling fans are installed in the inner center of the power brush.

9. The suction head of claim 1, wherein the cooling fans are formed on both surfaces of the power brush by processing the radial blades.

25 10. The suction head of claim 1, wherein a filter is installed inside a

through hole of the head case so as to prevent alien substances from being blown into.

11. A suction head of a vacuum cleaner, comprising:

5 a head case connected to a cleaner body and having a suction hole on the bottom;

a power brush positioned in the head case, some part of which protrudes outward the head case through the suction hole, the power brush for removing alien substances;

10 a supporting shaft fixed to the head case, the supporting shaft for supporting the power brush to be in a rotary motion;

rotary operating means installed between the supporting shaft and the power brush in the power brush, the rotary operating means for rotatively operating the power brush; and

15 cooling fans for cooling the rotary operating means by blowing an air outside the head case into the power brush while rotating the moment the power brush rotates.

12. The suction head of claim 11, further comprising shielding means
20 for separating a channel leading to the inside of the power brush from a channel leading to the suction hole of the head case.

13. The suction head of claim 12, wherein the cylindrical shielding means is installed between a through hole of the head case and apertures formed
25 on both surfaces of the power brush and is connected to the power brush through

a bearing so as to be in a relative motion.

14. The suction head of claim 11, wherein the apertures connected to the outside of the head case are formed on both surfaces of the power brush and the cooling fans are installed at least one side of the apertures of the power brush.

15. The suction head of claim 14, wherein the outer ring of the cooling fan is fixed to the power brush in a state where the cooling fan is relatively and rotatably supported by the supporting shaft.

16. The suction head of claim 15, wherein the cooling fan comprises a hub relatively and rotatably supported by the supporting shaft, the outer ring combined with the power brush, and blades connected between the hub and the outer ring, the blades for generating flow force.

17. The suction head of claim 11, wherein both side surfaces of the power brush are opened and the cooling fans are installed in the inner center of the power brush.

18. The suction head of claim 11, wherein the cooling fans are formed on both surfaces of the power brush by processing the radial blades.